

WHAT IS CLAIMED IS:

1. A system that integrates commercial satellite communications technology with tactical aircraft communications technology, comprising:
  - an off-board transceiver capable of communicating two-way data with a SATCOM network;
  - an onboard transceiver capable of communicating two-way data with SATCOM network;
  - an onboard communications system; and
  - an onboard interface unit further comprising a computer processor that executes a software program comprising instructions for:
    - sending and receiving data from onboard commercial transceiver;
    - and
    - sending and receiving data from onboard communications systemand wherein said onboard interface unit communicates data with said onboard communications system and said onboard commercial transceiver.
2. The system of claim 1, wherein said onboard transceiver is a commercial off-the-shelf transceiver.
3. The system of Claim 1, wherein said communications system further comprises an intercom and the onboard interface unit further comprises a sound-card coupled to said computer processor and said intercom, the sound card being capable of:
  - communicating two-way data with said computer processor; and
  - communicating two-way analog voice data with said intercom.
4. The system of Claim 1, wherein said onboard interface unit comprises a video card coupled to said processor and said display, wherein said video card is capable of:
  - sending and receiving data from the computer process;
  - sending and receiving data from the display.
5. The system of Claim 4, wherein the video card is capable of communicating SVGA data.

6. The system of Claim 4, wherein the video card is capable of communicating RS-170 data.

5 7. The system of Claim 4, wherein the display is a multi-function display set.

8. The system to integrate commercial satellite communications technology of Claim 1, wherein the communications system further comprises a  
10 radio in electrical connection with the computer processor, the computer processor capable communicating two-way data with the radio.

9. The system of Claim 8, wherein the radio is a UHF/VHF radio.

10 10. The system of Claim 8, wherein the commercial interface unit further comprises an improved data modem in electrical connection with the radio and the computer processor, whereby the computer processor communicates two-way data with the radio.

11. The system to integrate commercial satellite communications technology of Claim 1, wherein the communications system further comprises a mission data processor in electrical connection with the computer processor, the mission data processor capable of communicating two-way data with the computer processor.  
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12. The system of Claim 11, wherein the onboard integration unit further comprises a bus in electrical connection with the mission data processor and the computer processor, whereby the computer processor communicates data with the mission data processor.  
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13. The system of Claim 12, wherein the bus is a Mil-Std-1553 bus.

14. The system to integrate commercial satellite communications technology of Claim 1, wherein the onboard interface unit further comprises a  
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navigation system in electrical connection with the computer processor and an antenna, wherein the navigation system and the computer processor are capable of communicating two-way data with each other.

5           15.    The system to integrate commercial satellite communications technology of Claim 1, wherein threat data is communicated.

10           16.    The system to integrate commercial satellite communications technology of Claim 1, wherein weather data is communicated.

15           17.    The system to integrate commercial satellite communications technology of Claim 1, wherein target data is communicated.

20           18.    The system to integrate commercial satellite communications technology of Claim 1, wherein voice data is communicated.

25           19.    The system to integrate commercial satellite communications technology of Claim 1, wherein ejection data is communicated.

          20.    The system to integrate commercial satellite communication technology of Claim 1, wherein the onboard interface unit further comprises a commercial SATCOM control capable of sending to and receiving control information from the onboard commercial transceiver and capable of sending to and receiving control data from the computer processor.

21. A method for integrating commercial satellite communication technology with aircraft communications technology comprising:

communicating two-way data with a commercial SATCOM network from an off-board transceiver;

5 communicating two-way data with the commercial SATCOM network from an onboard commercial transceiver;

communicating two-way data with an onboard interface unit;

communicating two-way data with an onboard communications system; and

10 processing two-way data.

22. The method of Claim 21 for integrating commercial satellite communication technology with aircraft communications technology wherein the step of communicating data to the onboard interface unit further comprises

15 communicating the data to a computer processor.

23. The method of Claim 21 for integrating commercial satellite communication technology with aircraft communications technology wherein the step of communicating two-way data with the onboard communications system further comprises communicating video data to a multi-function display set.

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24. The method for integrating commercial satellite communication technology with aircraft communications technology of claim 21, wherein the step of communicating two-way data with the onboard communications system further comprises communicating video data to a commercial display.

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25. The method for integrating commercial satellite communication technology with military aircraft communications technology of claim 21, wherein the step of communicating two-way data with the onboard communications system further comprises communicating two-way data with a mission data processor.

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26. The method for integrating commercial satellite communication technology with aircraft communications technology of Claim 21, wherein the step

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5 33. The method for integrating commercial satellite communication technology with aircraft communications technology of Claim 21, wherein the step of communicating two-way data with a commercial SATCOM network from an off-board transceiver further comprises communicating weather data.

10 34. The method for integrating commercial satellite communication technology with aircraft communications technology of Claim 21, wherein the step of communicating two-way data with a commercial SATCOM network from an off-board transceiver further comprises communicating target data.

15 35. The method for integrating commercial satellite communication technology with aircraft communications technology of Claim 21, wherein the step of communicating two-way data with a commercial SATCOM network from an onboard commercial transceiver further comprises communicating status data.

20 36. The method for integrating commercial satellite communication technology with military aircraft communications technology of Claim 21, wherein the step of communicating two-way data with a commercial SATCOM network from an off-board transceiver further comprises communicating ejection data.

25 37. The method for integrating commercial satellite communication technology with military aircraft communications technology of Claim 21, wherein the step of communicating two-way data with a commercial SATCOM network from an onboard commercial transceiver further comprises communicating voice data.

30 38. The method for integrating commercial satellite communication technology with military aircraft communications technology of Claim 21, wherein the step of communicating two-way data with a commercial SATCOM network from an on board off-the shelf transceiver further comprises further comprises communicating threat data.

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41. An apparatus of integrating commercial satellite communication technology with military aircraft communications technology comprising;

a commercial SATCOM control in electrical connection with a commercial satellite transceiver, the commercial SATCOM control operable to control the commercial satellite transceiver;

a computer processor in electrical connection with the commercial SATCOM transceiver, capable of:

sending and receiving data from the commercial SATCOM transceiver; and

processing the data; and

a sound card in electrical connection with the computer processor and an intercom, the sound card capable of;

sending and receiving data from the computer processor;

sending and receiving voice analog data from an intercom;

and

processing data.

42. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 41, further comprising:

a video card in electrical connection with the computer processor and a display, wherein the video card capable of:

communicating two-way data with the computer processor;

communicating video data with the display;

processing data.

43. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 42, wherein the video card is an SVGA video card.

44. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 42, wherein the video card is an RS-170 video card.



45. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 42, wherein the display is a multi-function display set.

5 46. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 42, wherein the display is a commercial display.

10 47. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 41, wherein the computer processor is in electrical connection with a radio, the computer processor is capable of communicating two way voice data with a radio.

15 48. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 47, wherein the radio is a UHF/VHF radio.

20 49. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 47, further comprising an improved data modem in electrical connection with the computer processor and the radio, whereby the computer processor communicates two-way data with the radio.

25 50. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 41, wherein the computer processor is in electrical connection with a mission data processor, the mission data processor capable of communicating two-way data with the computer processor.

30 51. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 41, further comprising a bus in electrical connection with the computer processor and the mission data processor, whereby the computer processor communicates with the mission data processor.

52. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 51, wherein the bus is a Mil-Std-1553 bus.

5 53. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 41, further comprising a navigation system in electrical connection with an antenna and the computer processor, wherein the navigation system is capable of communicating data with the computer processor.

10 54. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 53, wherein the navigation system is a GPS system.

15 55. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 41, further comprising a storage device in electrical communication with the computer processor, the computer processor capable of communicating two-way data with the storage device.

20 56. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 55, wherein the storage device is a flash hard drive.

25 57. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 41, further comprising a voltage converter in electrical connection with computer processor, the voltage converter capable of providing electrical power to the computer processor.

30 58. The apparatus of integrating commercial satellite communication technology with military aircraft communications technology of Claim 51, further comprising a test port in electrical connection with the computer processor.

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